IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Aviad Zlotnick

Application No. 09/902,733
Filed: July 12, 2001

IMPROVING EFFICIENCY AND SPEED IN VERIFICATION
OF RECOGNITION RESULTS

Examiner: Gergory M. Desire
Art Unit: 2624

APPEAL BRIEF

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TABLE OF AUTHORITIES

REAL PARTY IN INTEREST

The subject application is owned by International Business Machines Corporation, having a place of business at New Orchard Road, Armonk, New York. The assignment was recorded in the U.S. Patent and Trademark Office on October 31, 2001, under Reel 012293, Frame 0615.

RELATED APPEALS AND INTERFERENCES

None.

STATUS OF CLAIMS

This application contains claims 1-3, 5-14, 16-25 and 27-33, all of which were finally rejected in an Official Action dated November 17, 2005. The Examiner reaffirmed the rejection of claim 1 in an Advisory Action dated March 13, 2006.

On April 11, 2006, Appellant appealed from the rejection of claims 1-3, 5-14, 16-25 and 27-33 (all the claims currently under examination in this application) and submitted a Pre-Appeal Brief Request for Review. On May 26, 2006, the pre-appeal panel maintained the Examiner's November 17, 2005, final office action.

STATUS OF AMENDMENTS

No amendments have been filed subsequent to the November 17, 2005, final office action.

SUMMARY OF CLAIMED SUBJECT MATTER

One aspect of Appellant's invention, as recited in independent claim 1, provides a method for increasing efficiency of interaction by an operator with data on a computer display: Multiple redundant instances of an on-screen control are placed at different locations in proximity to different fields on the display, for selection by the operator using a pointing device. The method includes the following steps:

(a) The data are presented to the operator in a plurality of data fields on the computer display. This arrangement can be seen clearly in Fig. 1 of the present patent application, in which an operator 39 views fields 24 on screen 42.

(b) Multiple redundant instances of an on-screen control are placed at different locations on the display in proximity to different ones of the fields for selection by the operator using a pointing device linked to the display. Figs. 2A and 2B shows multiple redundant "DONE" buttons 33 and 37, for example, which are displayed in proximity to different fields 24. The operator may actuate these buttons by movement of mouse 40, as shown in Fig. 1 and

described at multiple points in the
specification, such as on page 11, lines 18-20.

(c) The control is actuated responsive to the
     selection by the operator of any of the
     instances of the control on the display. "When
     the operator has corrected all the anomalous
     letters… he clicks mouse 40 either on one of
     the 'done' buttons 33 or a 'done' button 31 at
     the bottom of the screen" (page 10, lines 5-8).

As a result of the use of redundant controls, the
operator need make only a small movement of a pointing device
to reach the closest instance (as explained on page 3, lines
23-25, in the present patent application, for example).

Independent claim 12 recites apparatus for operator
interaction with a computer, which operates on principles
similar to the method of claim 1. The apparatus includes:

(a) A display, which is arranged to present data to
     an operator. See screen 42 and operator 39 in
     Fig. 1.

(b) A processor, which is coupled to drive the
     display to present the data in a plurality of
     data fields on the display. Multiple redundant
     instances of an on-screen control are placed in
     proximity to different fields at different
     locations on the display. Document processor
     30, coupled to screen 42, is shown in Fig. 1.

Figs. 2A and 2B shows multiple redundant "DONE" buttons 33 and 37, which are displayed in proximity to different fields 24.

(c) A pointing device is coupled to the processor so as to enable the operator to select for actuation any of the instances of the on-screen control. The operator may actuate these buttons by movement of mouse 40, as shown in Fig. 1 and described, for example, on page 10, lines 5-8, in the specification.

Independent claim 23 recites a computer software product, comprising a computer-readable medium containing software instructions that cause a computer to carry out functions similar to the method of claim 1. Embodiment of the present invention in such software is described in the specification on page 8, line 29 – page 9, line 3. The explanation of claim 1 given above shows the support in the specification for the functions that are recited in claim 23.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1, 2, 5-8, 11-13, 16-19, 22-24, 27-30 and 33 were rejected under 35 U.S.C. §102 (b) over Yeager et al. (U.S. Patent 5,950,190). Claims 3, 9, 10, 14, 20, 21, 25, 31 and 32 were rejected under 35 U.S.C. §103 (a) over Yeager in view of Kanatsu (U.S. Patent 6,628,832). Appellant believes these rejections should be reversed.

ARGUMENT

*I.   The 35 U.S.C. §102 (b) Rejection of Independent Claims 1,
12 and 23.*

Appellant respectfully submits that the Examiner
erred in maintaining that claims 1, 12 and 23 are anticipated
by Yeager.

Yeager describes a dynamic database interface with
multiple graphical windows for searching and editing the
database contents (abstract). Yeager shows an exemplary
search window in Fig. 4, which includes different parameter
buttons 52 with input fields 53 for input of search terms
(col. 10, lines 11-25). A pull-down list 54 provides a choice
of mathematical operators from which an end user may choose
(col. 10, lines 30-38). In the Official Action of November 17
(paragraph 6), the Examiner stated that Yeager's blocks 52 and
54 represent multiple redundant instances of on-screen
controls. The Examiner's position in the Official Action
appeared to be that the pull-down lists for the Barcode and
Partno fields in Yeager's Fig. 4 contain the same operators
and are therefore redundant. The Examiner's response in the
Advisory Action to Appellant's subsequent arguments is not
entirely clear, but it appears that the Examiner has taken the
alternative position that the "pull down arrows" in Yeager's
Fig. 4 (in the form of inverted triangles next to fields 53)
are multiple redundant instances of an on-screen control.
Appellant notes that there is no mention of these elements in

Yeager's specification, so that the Examiner's position in this regard is unsupported by the cited art.

Even if it were conceded, for the sake of argument, that Yeager's pull-down list or inverted triangles might be *multiple instances* of an on-screen control, *Yeager neither teaches nor suggests placing* multiple redundant instances *of an on-screen control* on a display, as required by claims 1, 12 and 23. MPEP 2111.01 states clearly that the words of a claim must be given their "'plain meaning'… [which] refers to the ordinary and customary meaning given to the term by those of ordinary skill in the art." *The Examiner, however, has entirely ignored the meaning of the term "redundant,"* which was introduced in the Amendment of August 31. He has evidently taken the position that whenever multiple instances of some control are presented on screen, they must necessarily be redundant, so that addition of the term "redundant" itself has no meaning at all.

According to *In re Morris,* 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997), cited in MPEP 2111:

> "[The] PTO applies to verbiage of the
> proposed claims the broadest reasonable
> meaning of the words in their ordinary usage
> as they would be understood by one of
> ordinary skill in the art, taking into
> account whatever enlightenment by way of
> definitions or otherwise that may be
> afforded by the written description
> contained in applicant's specification."

Appellant respectfully submits that the term "redundant" has a plain and unequivocal meaning to those of ordinary skill in the technological arts, and that this meaning is reinforced by the specification of the present patent application. When this meaning is taken into account in reading the claims, the distinction of claims 1, 12 and 23 over the cited art is clear.

Webster's Third International Dictionary (1993) defines redundant as "exceeding what is necessary or normal." As used in the technological arts, this definition is taken to refer to an element that duplicates a function performed by another element and therefore is not needed for normal performance of the function. A redundant disk, for example, stores the same data as another disk, while a redundant communication link provides an additional connection between two points that are already connected by another link. A redundant control on screen performs the same function as is already performed by another control.

The description of on-screen controls in the specification of the present patent application clearly supports this interpretation of a "redundant control," even though the term "redundant" does not explicitly appear. As shown in Figs. 2A and 2B, for example, the user viewing this screen may select any of the "DONE" controls and will accomplish exactly the same effect: to indicate that verification is complete and move on to the next screen. In

other words, the <u>controls interchangeably perform the very</u> <u>same function</u>. The Federal Circuit Court made clear the importance of the specification in construing claim terms in *Philips v. AWH Corp.*, 415 F.3d 1303, 1313, 75 USPQ2d 1321, 1326 (Fed. Cir. 2005):

> … the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.

More recently, in reviewing a decision of the Board of Patent Appeals and Interferences, *In re Scott E. Johnston*, (Bd. App. 2006), the Court indicated that the principles of *Philips v. AWH Corp.*, 415 F.3d 1303, 75 USPQ2d 1321 (Fed. Cir. 2005) should be applied by the Patent Office, as well: "It is well established that dictionary definitions must give way to the meaning imparted by the specification." In any event, the meaning of "redundant" that can be inferred from the specification in the present case is in concord with the dictionary meaning cited above and with the common usage of the term in the technological arts.

In Yeager, on the other hand, <u>each on-screen control</u> <u>has its own unique purpose</u>. Each field has a different meaning, and each pull-down menu is applicable to that specific field. Similarly, even if it were accepted, for the sake of argument, that the inverted triangles in Fig. 4 are really "pull-down arrows," each such arrow would still be meant to operate uniquely on the field with which it is associated. Eliminating one of these pull-down arrows from Yeager's screen would mean that there is no way to access the

pull-down menu for the corresponding field. There is no duplication of functions among Yeager's on-screen controls, and there are no more controls than what is "necessary and normal." Stating that Yeager's controls are "redundant" would be equivalent to stating that identical disks that are configured to store different data or identical communication lines connecting different points are redundant. <u>The fact that multiple instances of a control (or disks or communication lines) may have the same form or even perform similar functions on different objects does not by itself make them redundant</u>.

Thus, the Examiner's interpretation of the term "redundant" in the present claims clearly deviates far outside the plain meaning of the term. The interpretation that the Examiner has ascribed to the term is so far outside its broadest reasonable meaning as to deprive the term of any meaning at all. It appears that the Examiner sees no difference between the meaning of "multiple <u>redundant</u> instances of an on-screen control" and "multiple instances of an on screen control."

Given a reasonable interpretation of "redundant," there is no teaching or suggestion in the cited art of the use of "multiple redundant instances of an on-screen control at different locations on the display in proximity to different ones of the fields," as recited in claims 1, 12 and 23. Therefore, the rejection of claims 1, 12 and 23 should be reversed.

II. The 35 U.S.C. §102 (b) Rejection of Claims 2, 13 and 24

Appellant respectfully submits that even if independent claims 1, 12 and 23 were conceded to be unpatentable over Yeager, the cited references still do not teach or suggest the added elements of dependent claims 2, 13 and 24.

Claims 2, 13 and 24 recite that actuation by the operator of the control (which appears in multiple redundant instances on the display) indicates that the data are verified. In rejecting these claims, the Examiner referred to Yeager's "DONE" button in Fig. 4 and to a "DESCRIPTION" button mentioned by Yeager in col. 10, lines 60-65. Yeager, however, makes no mention or suggestion of data verification or of any sort of operation that might be considered equivalent to verification. Yeager shows a single "DONE" button, without elaboration in the text of his specification as to the meaning of this button. (It is not clear how the passage cited by the Examiner in col. 10 could possibly be relevant to these claims.) Therefore, there is no basis on which it could be concluded that by pressing this "DONE" button, a user of Yeager's database interface would have indicated that anything was verified. By contrast, in the present patent application, the relation between the "DONE" buttons on the screen and the verification performed by the operator is clearly described (see page 3, for example).

Although Kanatsu mentions that a user may correct table cells at step S207 (col. 6, lines 33-44), he likewise neither teaches nor suggests that an operator might actuate an on-screen control to indicate that data have been verified. Therefore, claims 2, 13 and 24 are independently patentable over the cited art, notwithstanding the patentability of the independent claims.

III. *The 35 U.S.C. §102 (b) Rejection of Claims 5, 16 and 27.*

Appellant respectfully submits that even if independent claims 1, 12 and 23 were conceded to be unpatentable over Yeager, the cited references still do not teach or suggest the added elements of dependent claims 5, 16 and 27.

Claims 5, 16 and 27 recite that all of the multiple redundant instances of the on-screen control indicate that the operator has finished processing the data in the plurality of fields on the computer display. In rejecting these claims, the Examiner referred to Yeager's "OK" and "DONE" controls on screen in Fig. 4. The meaning of "OK," however, is inherently different from "DONE," so that the controls are not redundant.

Furthermore, the combined elements of claims 1 and 5 (and similarly of claims 12 and 16 and claims 23 and 27) require that multiple instances of the control indicating that the operator has finished processing the data in all of the fields be located on the display in proximity to different ones of the fields. Even if Yeager's "OK" and "DONE" were

conceded to be redundant, these controls are not located <u>in</u> <u>proximity to different data fields</u> on Yeager's screen. Yeager does not even teach or suggest that the pull-down arrows or pull-down menus next to a given field might include a control to indicate that the operator has finished processing that particular field, <u>let alone finished processing all the fields</u> as required by claims 5, 16 and 27. Neither Yeager nor Kanatsu gives any sort of motivation that might have led a person of ordinary skill in the art to place multiple controls on screen in the manner recited in claims 5, 16 and 27.

Therefore, claims 5, 16 and 27 are independently patentable over the cited art, notwithstanding the patentability of the independent claims.

CONCLUSION

For the foregoing reasons, it is submitted that the Examiner's rejection of claims 1-3, 5-14, 16-25 and 27-33 was erroneous. Reversal of his decision is respectfully requested.

Respectfully submitted,

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CLAIMS APPENDIX

This listing of claims includes all of the claims involved in the appeal.

Listing of Claims:

1. A method for increasing efficiency of interaction by an operator with data on a computer display, comprising:

presenting the data to the operator in a plurality of data fields on the computer display;

placing multiple redundant instances of an on-screen control at different locations on the display in proximity to different ones of the fields for selection by the operator using a pointing device linked to the display; and

actuating the control responsive to the selection by the operator of any of the instances of the control on the display.

2. A method according to claim 1, and wherein actuating the control comprises receiving an input from the operator to indicate that the data are verified.

3. A method according to claim 2, wherein presenting the data comprises presenting results of optical character recognition (OCR) for verification by the operator.

5. A method according to claim 1, wherein the multiple redundant instances of the on-screen control all

indicate that the operator has finished processing the data in the plurality of the fields.

6.   A method according to claim 1, wherein placing the instances comprises interspersing the instances of the control between the data fields.

7.   A method according to claim 1, wherein providing the multiple instances comprises choosing the locations so as to minimize a traverse of the pointing device required to select one of the instances.

8.   A method according to claim 1, wherein presenting the data comprises displaying in the fields characters from a document to which codes have been assigned so that the operator can verify that the assigned codes are correct.

9.   A method according to claim 8, wherein displaying the characters comprises displaying results of optical character recognition (OCR) processing.

10.   A method according to claim 9, wherein displaying the results comprises displaying together a plurality of the characters which have been assigned the same code by the OCR processing, with one of the characters in each of the fields.

11. A method according to claim 1, wherein providing the multiple instances comprises providing three or more instances of the control on screen.

12. Apparatus for operator interaction with a computer, comprising:

a display, arranged to present data to an operator;

a processor, coupled to drive the display to present the data in a plurality of data fields on the display together with multiple redundant instances of an on-screen control placed in proximity to different ones of the fields at different locations on the display; and

a pointing device, coupled to the processor so as to enable the operator to select for actuation any of the instances of the on-screen control.

13. Apparatus according to claim 12, wherein selection of any of the instances of the on-screen control indicates that the data are verified.

14. Apparatus according to claim 13, wherein the data comprise results of optical character recognition (OCR) for verification by the operator.

16. Apparatus according to claim 12, wherein the multiple redundant instances of the on-screen control all indicate that the operator has finished processing the data in the plurality of the fields.

17. Apparatus according to claim 12, wherein the instances of the control are interspersed between the data fields.

18. Apparatus according to claim 12, wherein the locations of the multiple instances are chosen so as to minimize a traverse of the pointing device required to select one of the instances.

19. Apparatus according to claim 12, wherein the data in the fields comprise characters from a document to which codes have been assigned so that the operator can verify that the assigned codes are correct.

20. Apparatus according to claim 19, wherein the codes are assigned to the characters by optical character recognition (OCR) processing.

21. Apparatus according to claim 20, wherein a plurality of the characters which have been assigned the same code by the OCR processing are displayed together, with one of the characters in each of the fields.

22. Apparatus according to claim 12, wherein the multiple instances comprise three or more instances of the control on screen.

23. A computer software product for increasing efficiency of interaction of an operator with data on a computer display, comprising a computer-readable medium in

which program instructions are stored, which instructions, when read by a computer, cause the computer to present the data to the operator in a plurality of data fields on the computer display while providing multiple redundant instances of an on-screen control placed in proximity to different ones of the fields at different locations on the display for selection by the operator using a pointing device linked to the display, and to actuate the control responsive to the selection by the operator of any of the instances of the control on the display.

24. A product according to claim 23, wherein selection of any of the instances of the on-screen control indicates that the data are verified.

25. A product according to claim 24, wherein the data comprise results of optical character recognition (OCR) for verification by the operator.

27. A product according to claim 23, wherein the multiple redundant instances of the on-screen control all indicate that the operator has finished processing the data in the plurality of the fields.

28. A product according to claim 23, wherein the instances of the control are interspersed between the data fields.

29. A product according to claim 23, wherein the locations of the multiple instances are chosen so as to minimize a traverse of the pointing device required to select one of the instances.

30. A product according to claim 23, wherein the data in the fields comprise characters from a document to which codes have been assigned so that the operator can verify that the assigned codes are correct.

31. A product according to claim 30, wherein the codes are assigned to the characters by optical character recognition (OCR) processing.

32. A product according to claim 31, wherein a plurality of the characters which have been assigned the same code by the OCR processing are displayed together, with one of the characters in each of the fields.

33. A product according to claim 23, wherein the multiple instances comprise three or more instances of the control on screen.

In re Application No. 09/902,733

EVIDENCE APPENDIX

C. YEAGER et al., U.S. Patent No. 5,950,190, Sept. 7, 1999.

T. KANATSU, U.S. Patent No. 6,628,832, Sept. 30, 2003.

RELATED PROCEEDINGS APPENDIX

None.